

REMARKS

Claims 1-9, 19-65, 69-120 and 124-128 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Applicants would like to thank the Examiner for the courtesy extended during the personal interview conducted on November 8, 2006. During the interview, Applicants' representative and the Examiner discussed a proposed amendment to the claims that would distinguish over the prior art of record. No agreement was reached.

CLAIM OBJECTIONS

Claims 4, 5, 19, 33, 58, and 124 stand objected to for certain informalities. Applicants amended these claims according to the Examiner's suggestions.

REJECTION UNDER 35 U.S.C. § 102

Claims 32-35, 37, 41-44, 46, 50-53, 55 are rejected under 35 U.S.C. § 102(b) as being anticipated by Gelfand et al. (U.S. Pat. No. 6,144,697). This rejection is respectfully traversed. Claims 69-71 are rejected under 35 U.S.C. § 102(e) as being anticipated by Andren et al. (U.S. Pat. No. 6,603,801). These rejections are respectfully traversed.

With respect to claim 32, the cited art fails to show, teach, or suggest generating a subsymbol waveform upon receipt of a second number of chips of the symbol and before at least one of receiving, decoding, and deciding the first number of chips of the symbol, the second number being less than the first number. As best understood

by Applicants, the cited art discloses receiving all of the first number of chips of the symbol.

For anticipation to be present under 35 U.S.C §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. Scripps Clinic & Res. Found. V. Genentech, Inc., 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be inherent or expressly disclosed and must be arranged as in the claim. Constant v. Advanced Micro-Devices, Inc., 7 USPQ.2d 1057 (Fed. Cir. 1988). Here, the cited art fails to disclose the limitation of generating a subsymbol waveform upon receipt of a second number of chips of the symbol **and before at least one of receiving, decoding, and deciding the first number of chips of the symbol.**

As shown in an exemplary embodiment in FIGS. 1 and 2 of the present application, a decoding unit 100 includes a symbol/subsymbol demodulation unit 140. The demodulation unit 140 generates decoded subsymbol information (DSSI) and partial load parameters (PLP) before the subsymbol is completely decoded, decided, or perceived. (See Paragraph [0017]). For example, “a decoded subsymbol waveform based on one or more subsets of the received chips defining a given symbol may be realized and fed back to the FBF 130 **while such symbol is still awaiting to be completely decided or decoded, or even before all of the chips defining that symbol are perceived.**” (See Paragraph [0015]; Emphasis added).

As best understood by Applicants, Gelfand and Andren fail to disclose this structure. For example, the Examiner alleges that Gelfand discloses generating a sub-

symbol waveform upon receipt of a second number of chips of the symbol at Col. 3, Lines 12-23 and 34-37. Col. 3, Lines 12-23 recite:

Still another feature of the present invention includes: **determining a first set of coefficients for an equalizer receiving a signal with intersymbol interference, comparing each of the first coefficients to a second set of coefficients, and equalizing the signal with the equalizer as a function of the second coefficients to reduce the intersymbol interference. The second coefficients are a subset of the first coefficients** selected to minimize multiplication operations for this equalization. The second coefficients may be updated periodically to account for changes in the response of a channel causing the intersymbol interference. (Emphasis added).

According to the Examiner, the second number is a subset of the first which is reduced by an inter-symbol interference function. Applicants respectfully submit that **the first set of coefficients is determined and compared to the second set of coefficients. In other words, Gelfand discloses determining (i.e. perceiving/decoding/deciding) the alleged first number of coefficients. As such, Gelfand fails to disclose generating a subsymbol waveform upon receipt of a second number of chips of the symbol and before at least one of receiving, decoding, and deciding the first number of chips of the symbol.**

Similarly, as best understood by Applicants, Andren fails to disclose this limitation. For example, the Examiner alleges that Andren discloses this limitation at Col. 2, Lines 46-56. The cited portion of Andren recites:

The method also comprises the step of **Viterbi decoding a precursor portion of the signal channel and forming a multi-state trellis having a predetermined number of states.** The method also comprises the step of feedback equalizing a post-cursor portion of the signal channel with a finite impulse response filter having feedback taps operatively connected to a chip detector circuit that tracks high rate mode chips and a carrier loop circuit for phase and frequency tracking. The method also comprises the step of despreading the information signal within the spread spectrum code function correlator.

In other words, the cited portion is directed to Viterbi decoding a precursor portion of a signal channel but appears to be absent of any teaching or suggestion of generating a decoded waveform upon receipt of a second number of chips less than the first number of chips of the Barker encoded symbol and **before at least one of receiving, decoding, and deciding the first number of chips of the Barker encoded symbol** as claim 69 recites.

Applicants respectfully submit that claims 32 and 69, as well as their corresponding dependent claims, should be allowable for at least the above reasons. Claims 41 and 50, as well as their corresponding dependent claims, should be allowable for at least similar reasons.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-3 and 19-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gelfand in view of Blinn et al. (U.S. Pub. 2003/0141469). Claims 38-40, 47-49, 56-58, 83-86, 88-95, 97-100, 101-104, 106-120 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gelfand in view of Andren. Claims 59-65 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gelfand in view of Andren. Claims 72-77 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Andren. These rejections are respectfully traversed.

With respect to claim 1, Gelfand, either singly or in view of Blinn and/or Andren, fails to show, teach, or suggest a subsymbol processor coupled to said feedback equalizer to generate a subsymbol waveform upon receipt of a second number of chips of the first symbol and **before at least one of receiving, decoding, and deciding the first**

number of chips of the first symbol and to provide the subsymbol waveform to the feedback equalizer, the second number being less than the first number.

It is a longstanding rule that to establish a prima facie case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 143 (CCPA 1974), see MPEP §2143.03. Furthermore, when evaluating claims for obviousness under 35 U.S.C. §103, all of the limitations must be considered and given weight. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), MPEP § 2144.03. Here, the cited art fails to disclose the limitation of generating a subsymbol waveform upon receipt of a second number of chips of the first symbol and **before at least one of receiving, decoding, and deciding the first number of chips of the first symbol.**

As described above with respect to claim 32, Gelfand discloses determining (i.e. perceiving and decoding) the alleged first number of coefficients. As such, Gelfand fails to disclose generating a subsymbol waveform upon receipt of a second number of chips of the symbol and **before at least one of receiving, decoding, and deciding the first number of chips of the symbol.** As best understood by Applicants, Gelfand fails to disclose generating a subsymbol waveform upon receipt of a second number of chips of the first symbol and **before at least one of receiving, decoding, and deciding the first number of chips of the first symbol.**

Applicants respectfully submit that claim 1, as well as its dependent claims, should be allowable for at least these reasons. Claims 19, 59, 83, 92, 101, and 114, as well as their corresponding dependent claims, should be allowable for at least similar reasons.

With respect to claim 72, Andren fails to disclose generating a decoded waveform upon receipt of a second number of chips less than the first number of chips of the Barker encoded symbol and before at least one of receiving, decoding, and deciding the first number of chips of the Barker encoded symbol. As described above with respect to claim 69, Andren is directed to Viterbi decoding a precursor portion of a signal channel. Andren appears to be absent of any teaching or suggestion of generating a decoded waveform upon receipt of a second number of chips less than the first number of chips of the Barker encoded symbol and before at least one of receiving, decoding, and deciding the first number of chips of the Barker encoded symbol as claim 72 recites.

Applicants respectfully submit that claim 72, as well as its dependent claims, should be allowable for at least the above reasons.

ALLOWABLE SUBJECT MATTER

The Examiner states that claim 78-82 and 124-128 would be allowable if rewritten or amended to overcome the claim objections, set forth in this Office Action. In the interest of expediting prosecution of the present application and without conceding the issue of patentability, Applicants amended these claims according to the Examiner's suggestions. Claims 78-82 and 124-128 should now be in condition for allowance.

Claims 4-8, 22-26, 36, 45, 54, 87, 96, and 105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims and further amended to overcome the claim objections, set forth in this Office Action. In the interest of

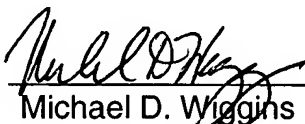
expediting prosecution of the present application and without conceding the issue of patentability, Applicants amended these claims into independent form and to overcome the claim objections. Claims 4-8, 22-26, 36, 45, 54, 87, 96, and 105 should now be in condition for allowance.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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